18. (New) The apparatus of claim 17, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

19. (New) The apparatus of claim 17 wherein the output is indicative of a number of drive cycles which the battery can support.

20. (New) The apparatus of claim 17 wherein the connection to the electrical system comprises a four point Kelvin connection.

21. (New) The apparatus of claim 17 wherein the battery condition is related to a response of the battery to a time varying signal.

22. (New) The apparatus of claim 17 wherein the output is provided to an operator.

23. (New) The apparatus of claim 17 wherein the output provides an indication that the vehicle must be driven for an extended period of time.

24. (New) The apparatus of claim 17 wherein the output provides an indication that an alternative charging method must be used.

25. (New) An apparatus for monitoring use of a storage battery in a vehicle, comprising:

an electrical connection to an electrical system of the vehicle, the electrical system including an alternator to charge the battery; and

a microprocessor coupled to the electrical connection and configured to measure a condition of the battery and monitor charging of the battery by the

alternator and store historical charging information and usage information of the storage battery.

26. (New) The apparatus of claim 25 wherein the historical charging information and usage information of the storage battery is over a life of the vehicle.

27. (New) The apparatus of claim 25 wherein the historical charging information and usage information of the battery is during manufacturing of the vehicle.

28. (New) The apparatus of claim 25 wherein the historical charging information and usage information of the battery is during delivery of the vehicle.

29. (New) The apparatus of claim 25 wherein the microprocessor is further configured to monitor a drive cycle of the vehicle and responsively provide an output indicative of a drive cycle which is insufficient to maintain battery charge.

30. (New) The apparatus of claim 25 wherein the connection to the electrical system comprises a four point Kelvin connection.

31. (New) The apparatus of claim 25 wherein battery condition is related to a response of the battery to a time varying signal.

32. (New) The apparatus of claim 25 wherein the microprocessor is configured to communicate with a digital memory of the storage battery.

33. (New) The apparatus of claim 32 wherein communication with the digital memory is through the electrical connection.

34. (New) The apparatus of claim 32 wherein the digital memory contains information related to a rating of the storage battery.

35. (New) An apparatus for monitoring an electrical system of a vehicle having a storage battery, comprising:

an electrical connection to an electrical system of the vehicle, the electrical system including an alternator to charge the battery; and

a microprocessor coupled to the electrical system through the electrical connection configured to monitor data points and store them in a memory, the microprocessor configured to observe a loss of one or more phases of an output of the alternator and responsively provide an output.

36. (New) The apparatus of claim 35 wherein the output comprises a "service alternator soon" output.

37. (New) The apparatus of claim 35 wherein the output is communicated to a vehicle microprocessor.

38. (New) The apparatus of claim 35 wherein the microprocessor is further configured to measure a condition of the battery, charge applied to the battery, and a drive cycle of the vehicle and responsively provide an output related to the battery condition, charge applied to the battery and the drive cycle.

39. (New) The apparatus of claim 38, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

40. (New) The apparatus of claim 38 wherein the output is indicative of a number of drive cycles which the battery can support.

41. (New) The apparatus of claim 35 wherein the connection to the electrical system comprises a four point Kelvin connection.

42. (New) The apparatus of claim 38 wherein the battery condition is related to a response to the battery to a time varying signal.

43. (New) The apparatus of claim 35 wherein the microprocessor is further configured to measure a condition of the battery and monitor charging of the battery by the alternator and store historical charging information and usage information of the storage battery.

44. (New) The apparatus of claim 43 wherein the historical charging information and usage information of the storage battery is over a life of the vehicle.

45. (New) An apparatus for monitoring a storage battery of an automotive vehicle, comprising:

an electrical connection to an electrical system of the vehicle, the electrical system including an alternator to charge the battery to charge the battery and at least one controllable load which draws power through the electrical system; and

a microprocessor coupled to the electrical connector configured to measure a condition of the battery indicative of state of charge (SOC) of the battery and reduce power drawn by the load in response to battery state of charge.

46. (New) The apparatus of claim 45 wherein the microprocessor couples to a databus of the vehicle.

47. (New) The apparatus of claim 45 wherein the microprocessor is further configured to measure a condition of the battery, charge applied to the battery, and a drive cycle of the vehicle and responsively provide an output related to the battery condition, charge applied to the battery and the drive cycle.

48. (New) The apparatus of claim 47, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

49. (New) The apparatus of claim 47 wherein the output is indicative of a number of drive cycles which the battery can support.

50. (New) The apparatus of claim 45 wherein the connection to the electrical system comprises a four point Kelvin connection.

51. (New) The apparatus of claim 45 wherein the condition of the battery is related to a response of the battery to a time varying signal.

52. (New) The apparatus of claim 45 wherein the microprocessor is further configured to measure a condition of the battery and monitor charging of the battery and store historical charging information and usage information of the storage battery.

53. (New) The apparatus of claim 52 wherein the microprocessor is configured to communicate with a digital memory of the storage battery.

54. (New) An apparatus in an automotive vehicle for monitoring a starter motor used to start an engine of the vehicle, the apparatus comprising:

an electrical connection to an electrical system of the vehicle, the electrical system including a battery and the starter motor; and

a microprocessor coupled to the electrical connection configured to determine a time to start the engine of the vehicle by the starter motor and detect an imminent failure of the starter motor based upon the time to start the engine of the vehicle by the starter motor.

55. (New) The apparatus of claim 54 wherein the microprocessor monitors a voltage drop of the electrical system to determine the time to start the vehicle by the starter motor.

56. (New) The apparatus of claim 54 wherein the microprocessor determines current required during starting and imminent starter motor failure is determined based upon the current.

57. (New) The apparatus of claim 56 wherein the determined current comprises average current during starting.

58. (New) The apparatus of claim 56 wherein the determined current comprises peak current required during starting.

59. (New) The apparatus of claim 54 wherein the microprocessor is further configured to measure a condition of the battery, charge applied to the battery, and a drive cycle of the vehicle and responsively provide an output related to the battery condition, charge applied to the battery and the drive cycle.

60. (New) The apparatus of claim 59, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

61. (New) The apparatus of claim 59 wherein the output is indicative of a number of drive cycles which the battery can support.

62. (New) The apparatus of claim 54 wherein the connection to the electrical connector comprises a four point Kelvin connection.

63. (New) The apparatus of claim 59 wherein the battery condition is related to a response to the battery to a time varying signal.

64. (New) The apparatus of claim 54 wherein the microprocessor is further configured to measure a condition of the battery and monitor charging of the battery and store historical charging information and usage information of the storage battery.

65. (New) An apparatus in an automotive vehicle for monitoring a starter motor used to start an engine of the vehicle, the apparatus comprising:

an electrical connection to an electrical system of the vehicle, the electrical system including a battery and the starter motor; and

a microprocessor coupled to the electrical connection configured to determine a current required to start the engine of the vehicle by the starter motor and detect an imminent failure of the starter motor based upon the current required to start the engine of the vehicle by the starter motor.

66. (New) The apparatus of claim 65 wherein the determined current comprises average current during starting.

67. (New) The apparatus of claim 65 wherein the determined current comprises peak current required during starting.

68. (New) The apparatus of claim 65 wherein the microprocessor monitors a voltage drop of the electrical system to determine a time to start the vehicle by the starter motor.

69. (New) The apparatus of claim 65 wherein the microprocessor is further configured to measure a condition of the battery, charge applied to the battery, and a drive cycle of the vehicle and responsively provide an output related to the battery condition, charge applied to the battery and the drive cycle.

70. (New) The apparatus of claim 69, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

71. (New) The apparatus of claim 69 wherein the output is indicative of a number of drive cycles which the battery can support.

72. (New) The apparatus of claim 69 wherein the connection to the electrical connector comprises a four point Kelvin connection.

73. (New) The apparatus of claim 65 wherein the microprocessor is further configured to measure a condition of the battery and monitor charging of the battery and store historical charging information and usage information of the storage battery.

74. (New) An apparatus for monitoring a storage battery in an automotive vehicle, comprising:

an electrical connection coupled to an electrical system of the vehicle, the electrical system including the storage battery; and

a microprocessor coupled to the electrical connection configured to sense replacement of the storage battery, measure a capacity of the battery, and responsively provide an indication that a battery capacity is less than a threshold level.

75. (New) The apparatus of claim 74 wherein the threshold is stored in a memory of the vehicle.

76. (New) The apparatus of claim 74 wherein the microprocessor is further configured to measure a condition of the battery, charge applied to the battery, and a drive cycle of the vehicle and responsively provide an output related to the battery condition, charge applied to the battery and the drive cycle.

77. (New) The apparatus of claim 76, wherein the output is indicative of a drive cycle which is insufficient to maintain battery charge.

78. (New) The apparatus of claim 76 wherein the output is indicative of a number of drive cycles which the battery can support.

79. (New) The apparatus of claim 74 wherein the connection to the electrical connector comprises a four point Kelvin connection.

80. (New) The apparatus of claim 74 wherein the battery capacity is related to a response to the battery to a time varying signal.

81. (New) The apparatus of claim 74 wherein the microprocessor is further configured to measure a condition of the battery and monitor charging of the battery and store historical charging information and usage information of the storage battery.